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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,376	12/19/2001	Lewis Illingworth	120-105	5891

7590 09/25/2003

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EXAMINER

HOPKINS, ROBERT A

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/025,376	ILLINGWORTH, LEWIS	
	Examiner	Art Unit	
	Robert A Hopkins	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-41 and 45-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-35 is/are allowed.
- 6) ☒ Claim(s) 36,37 and 39 is/are rejected.
- 7) ☒ Claim(s) 38,40,41 and 45-47 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 8-7-03 with respect to the rejection of claims 1,7,11, and 12 under 35 USC 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection of claims 36 and 39 is made in view of Powell et al. Therefore, the finality of the previous office action is hereby withdrawn in view of the current, nonfinal, office action.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: Claim 1 line 9 recites "therefrom into said separation chamber". Examiner believes that "separation chamber" should be changed to —collector—because the matter is ejected into the collector, as noted in other claims such as claim 36. Appropriate correction is requested.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 36,37, and 39 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Powell et al(4405265).

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Powell et al teaches a method of centrifugally separating matter from a fluid comprising the steps of utilizing a motor(28) to provide a cylindrical vortex fluid flow within a separation chamber(12), and centrifugally ejecting said matter(through holes 32) into a collector(33). Powell et al further teaches wherein the fluid flow is delivered to the separation chamber via an inner tube coupled thereto. Powell et al further teaches creating a higher pressure in the collector than in the separation chamber such that the cylindrical vortex fluid flow is maintained without impeding the matter from carrying into the collector.

Examiner notes claim 1 recites "fluid delivery means powered by a motor". As noted in claims 45-47 in the section below, the motor rotates the separation chamber to provide a vortex fluid flow, and not the impeller, propeller, or centrifugal pump. Therefore, amended claim 36 to recite utilizing a fluid delivery means powered by a motor to provide a cylindrical vortex fluid flow would seem to overcome Powell et al. Claims 45-47 could also be amended to state , for example, wherein the fluid delivery means comprises an impeller coupled to said motor which provides said cylindrical vortex fluid flow.

***Allowable Subject Matter***

Claims 1 and 3-35 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

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Claim 1 includes subject matter which was indicated as allowable in the office action dated 6/19/2003. Claims 3-13 and 16-18 depend on claim 1 and hence are also allowed.

Claims 14,15, and 19 are independent claims which were previously indicated as allowable. Claims 20-35 depend on claim 19 and hence are also allowable.

Claims 38,40,41, and 45-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 38 recites "wherein the fluid flow exits from the separation chamber via an annular duct created between an inner tube and an outer tube, wherein the inner tube delivers the fluid flow to the separation chamber and wherein the inner tube and outer tube are coaxial". Powell et al discloses an inner tube, but does not disclose an outer tube, wherein the inner tube and outer tube are coaxial. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide an inner tube and an outer tube, the inner tube and outer tube being coaxial because Powell et al does not suggest such a modification. Claims 40 and 41 depend on claim 38 and hence would also be allowable upon incorporation of claim 38 into claim 36.

Claim 45 recites wherein an impeller coupled to said motor provides said cylindrical vortex fluid flow". Powell discloses a motor which rotates a separation chamber to provide a vortex fluid flow, but does not disclose a motor coupled to an impeller, wherein the impeller provides the cylindrical vortex fluid flow. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to

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provide an impeller coupled to the motor which provides the cylindrical vortex fluid flow because Powell et al does not suggest such a modification.

Claim 46 recites wherein at least one propeller provides said cylindrical vortex fluid flow". Powell et al discloses a motor which rotates a separation chamber to provide a vortex fluid flow, but does not disclose a motor coupled to an propeller, wherein the propeller provides the cylindrical vortex fluid flow . It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide at least one propeller which provides the cylindrical vortex fluid flow because Powell et al does not suggest such a modification.

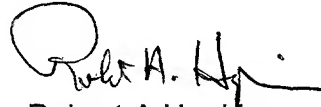
Claim 47 recites "wherein a centrifugal pump provides said cylindrical vortex fluid flow". Powell discloses a motor which rotates a separation chamber to provide a vortex fluid flow, but does not disclose wherein a centrifugal pump provides the cylindrical vortex fluid flow . It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a centrifugal pump which provides the cylindrical vortex fluid flow because Powell et al does not suggest such a modification.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A Hopkins whose telephone number is 703-308-3913. The examiner can normally be reached on Monday-Friday 9:00am-4:00pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 703-308-1261. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Robert A Hopkins  
Primary Examiner  
Art Unit 1724

Rah  
September 17, 2003